gravity at 60° Fahr. is 1·168; it boils at 323° Fahr., and distils at that temperature without alteration. It dissolves to a large extent in cold water and also in alcohol. Its solution in concentrated sulphuric acid has a magnificent purple colour, and is decomposed by water. Nitric acid, with the aid of heat, attacks the oil with prodigious violence, evolving copious red fumes, and generating oxalic acid, which appears to be the only product. It dissolves in a solution of caustic potash, forming a deep brown liquid, from which acids precipitate a resinous matter. With a slight heat, it explodes when acted upon by metallic potassium.

When placed in contact with 5 or 6 times its bulk of *Liquor ammoniæ*, it is gradually converted into a solid, yellowish-white, and somewhat crystalline mass, which is very bulky, perfectly soluble in cold water, and easily obtained in a state of dryness under a vacuum. The formula expressing the chemical constitution of this substance, or of *furfuroamide*, as the author calls it, is $C^{15}\,H^{6}\,N\,O^{3}$, and it is classed by him with the *amides*. The oil itself appears to be identical with the substance described by Dr. Stenhouse under the name of *artificial oil of ants*. Another substance, isomeric with the amides, and of which the formula is $C^{30}\,H^{12}\,N^{2}\,O^{6}$, was obtained by the author, and termed by him *furfurine*, and found to have the properties of a vegeto-alkali, and to form saline compounds with various acids.

February 6, 1845.

SIR JOHN WILLIAM LUBBOCK, Bart., V.P. and Treas. in the Chair.

"On a new Bleaching Principle produced by the slow Combustion of Æther in Atmospheric Air, and by the rapid Combustion of Bodies in a Jet of Hydrogen Gas." By C. F. Schœnbein, Professor of Chemistry in the University of Basle, &c. Communicated in a letter to Michael Faraday, Esq., F.R.S., &c.

The author, having observed that a peculiar principle, in many respects similar to chlorine, was developed during the slow combustion of phosphorus in the atmosphere, was led to inquire into the product of the slow combustion of the vapour of æther mixed with atmospheric air. He finds, that besides well-known compounds, such as aldehydic, formic and acetic acids, there is evolved a principle hitherto unnoticed, which possesses oxidizing and bleaching properties in an eminent degree. It decomposes indigo, iodide of potassium, and hydroiodic acid, and also, though more slowly, bromide of potassium. When in contact with water, it converts iodine into iodic acid, and sulphurous into sulphuric acid, changes the yellow ferro-cyanide of potassium into the red, and the white cyanide of iron into the blue; it transforms the salts of protoxide of iron into those of the peroxide; and it discharges the colours produced by sulphuret of lead. The author points out the similarity between the action of this substance, in these instances, and that of chlorine and of ozone.

Analogous results were obtained from the combustion of a jet of

hydrogen gas in atmospheric air, and even, under particular circumstances, from the flame of a common candle, and also from various other inflammable bodies when burning under certain conditions. The author is hence led to the conclusion that this peculiar oxidizing and bleaching principle is produced in all cases of rapid combustion taking place in atmospheric air, and that its production is therefore independent of the nature of the substance which is burnt.

"On the Structure and Development of the Blood.—*First Series.* The development of the Blood-Corpuscle in Insects and other Invertebrata, and its comparison with that of Man and the Vertebrata." By George Newport, Esq., F.R.C.S., President of the Entomological Society, &c. Communicated by P. M. Roget, M.D., Sec. R.S.

The author commences his paper by remarking, that he was led to the present inquiry by some curious facts relating to the blood of insects, which attracted his notice while engaged on the last paper he presented to the Royal Society, on the reproduction of lost parts in insects and myriapoda. Some of these facts he is desirous of making known at once to the Society, preparatory to his offering them more extended researches on the blood of the invertebrata, and its comparison with that of the higher animals.

The chief purpose of the author in the present paper, is to show the analogy which exists between the different corpuscles in the blood of insects and of the vertebrata, to trace the changes which the former undergo as compared with those of the latter, and to show that in development and function they are analogous to secreting cells.

In pursuance of this object, he premises a brief notice of what little was already known respecting the corpuscle in the articulata, and of the different descriptions given of it by Carus, Spence, Wagner, Bowerbank, Edwards, Baly and some later observers, all of whom have described it differently, one only, Mr. Bowerbank, having correctly indicated its form.

He then proceeds to state, that while engaged on other observations in June last, he found that the oat-shaped corpuscles, which are so abundant in the caterpillar state of the insect, almost entirely disappear before the insect has arrived at the perfect, or butterfly state, in which, a few days after the insect is fully developed, scarcely a single oat-shaped corpuscle is to be found; but in the place of these, there are numerous very minute rounded bodies, spherules, and also many flattened, obtusely oval or barrel-shaped, double concave discs. Both these forms of corpuscle have molecular movements, which are most energetic in the spherules.

He next makes some general observations on the composition of the blood of the invertebrata, and calls in question the accuracy of Professor Wagner's view in regarding the blood of these animals as analogous only to the chyle of the vertebrata, at the same time stating his belief that it is not only analogous to true blood, but that it undergoes a continued succession of changes through the agency of the corpuscles. These minute bodies first derive nourishment and